



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,268	06/29/2001	Arne W. Ballantine	10964-057001 / PP 765	8057

26161 7590 11/19/2003

FISH & RICHARDSON PC  
225 FRANKLIN ST  
BOSTON, MA 02110

EXAMINER
----------

MARTIN, ANGELA J

ART UNIT	PAPER NUMBER
----------	--------------

1745

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

ab10

**Office Action Summary**Application No.  
**09/896,268**Applicant(s)  
**Ballantine et al.**Examiner  
**Angela J. Martin**Art Unit  
**1745**

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Sep 22, 2003
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-58 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24-58 is/are allowed.
- 6) ☒ Claim(s) 1, 3-5, and 11-23 is/are rejected.
- 7) ☒ Claim(s) 6-10 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

Art Unit: 1745

### **DETAILED ACTION**

This Office Action is responsive to the Amendment filed on September 22, 2003. The Applicant has amended claim 1, canceled claim 2, and has added new claims 39-58. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Although the Examiner referenced claim 2 as having allowable subject matter, after further examination, a new rejection is presented. Accordingly, this action is made final.

#### ***Claim Objections***

1. Claims 3 and 4 are objected to because they are improperly dependent on claim 1, since claim 1 states that the operating parameter is "voltage"; claim 3 states that the operating parameter is "power output" and claim 4 states that the operating parameter is "temperature." Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in-

Art Unit: 1745

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 1, 3-5, and 11-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Farkash et al., U.S. Pat. Applicant. Pub. 2001/0036568 A1.

Rejection of claims 1, 3-5, and 11-23 drawn to a method of operating a fuel cell system.

Farkash et al., teach a method of operating a fuel cell system comprising a fuel cell stack and a plurality of fuel cells associated with the stack, the method comprising monitoring an operating parameter associated with the stack and adjusting a temperature of the stack based on the operating parameter (p. 1, sect. 0097), wherein the operating parameter is a power output, which is directly related to voltage, of the fuel cell (p. 3, sect. 0042). In addition, it teaches the operating parameter is a power output or a temperature of a fuel cell from the fuel cell system (p. 3, sect. 0042); wherein the temperature comprises adjusting coolant flow through the stack (p. 3, sect. 0041). In addition, it teaches the fuel cell system further comprises a first end plate associated with a first end of the fuel cell stack and heating the first end plate (p. 3, sect. 0033); wherein heating the first end plate comprises heating a first heating element different from the first end plate (p. 3, sect. 0035) and the first heating element is adjacent to the first end plate, wherein the first heating element is disposed between the first end plate and the stack (p. 3, sect. 0033). It also teaches flowing a fluid through a flow channel defined by the first end plate wherein the fluid

Art Unit: 1745

is heated (p. 3, sect. 0039); heating the first end plate with a heating element disposed on the first end plate wherein heating is performed electrically (p. 3, sect. 0039). Additionally, it teaches heating a second end plate in the stack (p. 3, sect. 0036), wherein heating the second plate comprises heating a second heating element different than the second plate (p. 3, sect. 0039), wherein the second heating element is adjacent to the second end plate and the element is between the second plate and the stack (p. 3, sect. 0039). It also teaches the method is performed as a feedback loop (p. 7, sect. 0097).

Thus, the claims are anticipated.

***Allowable Subject Matter***

4. Claims 6-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

The Applicant claims a method of operating a fuel cell system comprising a fuel cell stack, the method comprising monitoring an operating parameter associated with the stack and adjusting a temperature of the stack based on the parameter, wherein the operating parameter is a voltage of a fuel cell. Additionally, Applicant claims a method wherein adjusting coolant flow comprises restricting coolant flow through the fuel cell stack.

Art Unit: 1745

The prior art of record does not teach adjusting coolant flow comprises restricting coolant flow through the fuel cell stack.

6. Claims 24-58 are allowed.

7. The following is an examiner's statement of reasons for allowance:

The Applicant claims a method of operating a fuel cell system comprising a fuel cell stack and a plurality of fuel cells, the method comprising monitoring voltages of a set of fuel cells and restricting coolant flow through the fuel cell stack when one or more of the monitored voltages deviates from a predetermined voltage range.

Applicant claims a method of operating a fuel cell system comprising monitoring an operating parameter associated with the fuel cell stack; adjusting a temperature of the stack based on the parameter, wherein adjusting the temperature comprises adjusting coolant flow through the fuel cell stack, and adjusting coolant flow comprises restricting coolant flow through the fuel cell stack.

The prior art of record does not suggest a method of operating a fuel cell system comprising monitoring voltages of a set of fuel cells and restricting coolant flow through the fuel cell stack when one or more of the monitored voltages deviates from a predetermined voltage range. In addition, the prior art does not disclose adjusting the temperature comprises adjusting coolant flow through the fuel cell stack, and adjusting coolant flow comprises restricting coolant flow through the fuel cell stack.

Art Unit: 1745

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

### *Examiner Correspondence*

Art Unit: 1745

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Angela J. Martin whose telephone number is (703) 305-0586. The Examiner can normally be reached on Monday - Friday from 8:00am to 4:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Patrick Ryan, can be reached at (703) 308-2383.

In order to transmit a fax, the central official fax number is (703) 872-9306.

AJM

A handwritten signature in cursive script, appearing to read "Angela J. Martin".